

CLAIMS

1. A gate management method in a gate  
management system having a gate device installed at a  
5 vehicle entrance to a predetermined area and a gate  
management server managing entrance and exit of a passing  
vehicle, characterized by comprising:

an identification code reading step of reading  
identification code information displayed on a terminal  
10 moving with the vehicle when the vehicle passes the gate  
device; and

a passage authorization determination step of  
determining whether to authorize the vehicle to pass based  
on the read identification code information.

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2. The gate management method as claimed in  
claim 1, characterized by further comprising:

a destination determination step of determining  
a destination of the vehicle in the predetermined area  
20 based on the read identification code information at a  
time of the entrance of the vehicle; and

a destination notification step of notifying the  
terminal of the destination of the vehicle determined in  
the destination determination step.

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3. The gate management method as claimed in  
claim 1 or 2, characterized by further comprising a gate  
passage notification step of notifying a first  
communications terminal related to the destination of the  
30 vehicle that the vehicle has passed the gate device when  
the passage is authorized in the passage authorization  
determination.

4. The gate management method as claimed in any of claims 1 to 3, characterized by further comprising an exit notification step of notifying a predetermined second communications terminal that the vehicle has exited based on the identification code information at a time of the exit of the vehicle.

5. The gate management method as claimed in claim 1, characterized in that the identification code is a barcode, and the identification code reading means is a barcode reader.

6. The gate management method as claimed in claim 1, characterized in that the predetermined area is a port facility, and characterized by further comprising a step of assigning the identification code uniquely to each pick-up order and a step of providing the identification code from the gate management server to the terminal.

7. The gate management method as claimed in claim 1, characterized by further comprising a charge amount determination step of determining an amount to be charged for use of the predetermined area based on the identification information read when the vehicle passes the gate.

8. A gate management system having a gate device installed at a vehicle entrance to a predetermined area and a gate management server managing entrance and exit of a passing vehicle, characterized by comprising:  
identification code reading means for reading identification code information displayed on a terminal moving with the vehicle when the vehicle passes the gate

device; and

passage authorization determination means for  
determining whether to authorize the vehicle to pass  
through a gate based on the identification code  
5 information read by the identification code reading means.

9. The gate management system as claimed in  
claim 8, characterized by further comprising:

destination determination means for determining  
10 a destination of the vehicle in the predetermined area  
based on the identification code information at a time of  
the entrance of the vehicle; and

destination notification means for notifying the  
terminal moving with the vehicle of the destination of the  
15 vehicle determined by the destination determination means.

10. The gate management system as claimed in  
claim 8 or 9, characterized by further comprising gate  
passage notification means for notifying a first  
20 communications terminal related to the destination of the  
vehicle that the vehicle has passed the gate device based  
on a result of the determination by the passage  
authorization determination means.

25 11. The gate management system as claimed in  
any of claims 8 to 10, characterized by further comprising  
exit notification means for notifying a predetermined  
second communications terminal that the vehicle has exited  
based on the identification code information at a time of  
30 the exit of the vehicle.

12. The gate management system as claimed in  
claim 8, characterized in that the identification code is

a barcode, and the identification code reading means is a barcode reader.

13. The gate management system as claimed in  
5 claim 8, characterized in that the predetermined area is a port facility, and the gate management server in advance provides the identification code information assigned uniquely to each pick-up order to the terminal.

10 14. The gate management system as claimed in claim 8, characterized by further comprising charge amount determination means for determining an amount to be charged for use of the predetermined area based on the identification code information read at the time of the  
15 vehicle passage.

15. A gate device installed at a vehicle entrance to a predetermined area, the gate device, together with a gate management server managing entrance  
20 and exit of a passing vehicle, forming a gate management system, characterized by comprising:

identification code reading means for reading identification code information displayed on a terminal moving with the vehicle when the vehicle passes the gate  
25 device;

identification code information transmission means for transmitting the read identification code information to the gate management server; and

passage authorization output means for receiving  
30 passage authorization information from the gate management server and outputting the passage authorization information.

16. A gate management server connected to a gate device installed at a vehicle entrance to a predetermined area, the gate management server managing entrance and exit of a vehicle passing the gate device,  
5 characterized by comprising:

identification code information reception means for receiving identification code information read from a terminal moving with the vehicle by the gate device when the vehicle passes the gate device;

10 passage authorization determination means for determining whether to authorize the vehicle to pass based on the received identification code information; and

passage authorization information transmission means for transmitting passage authorization information  
15 showing a result of the determination of the passage authorization determination means to the gate device.

17. A gate management program to be installed in a gate management server connected via a network to a  
20 gate device installed at a vehicle entrance to a predetermined area, the gate management server managing entrance and exit of a vehicle passing the gate device, characterized by causing the gate management server to execute:

25 an identification code information reception process of receiving identification code information read from a terminal moving with the vehicle by the gate device when the vehicle passes the gate device;

a passage authorization determination process of  
30 determining whether to authorize the vehicle to pass based on the received identification code information; and

a passage authorization information transmission process of transmitting passage authorization information

showing a result of the determination of the passage authorization determination process to the gate device.

18. A recording medium storing a program used
- 5 in a gate management server connected via a network to a gate device installed at a vehicle entrance to a predetermined area, the gate management server managing entrance and exit of a vehicle passing the gate device, characterized by storing a gate management program
- 10 including:
- a process of causing the gate management server to receive identification code information read from a terminal moving with the vehicle by the gate device when the vehicle passes the gate device;
  - 15 a process of causing the gate management server to determine whether to authorize the vehicle to pass based on the received identification code information; and
  - a process of causing the gate management server to transmit passage authorization information showing a
  - 20 result of the determination of the passage authorization determination process to the gate device.